
BOOK REVIEW

Polhill, Roger & Delbert Wiens. 1998. *Mistletoes of Africa*. Royal Botanic Gardens, Kew. ISBN 1 900347 56 3. v + 370 pp., illustrated, hardbound.

This beautifully produced book provides a thorough and entirely novel synthesis of the biology, geographic distribution, morphology, and taxonomy of the Loranthaceae and Viscaceae of continental Africa. Copiously illustrated with 139 color photographs, 43 line drawings, and 162 maps, it is visually a pleasure to use. The opening chapter on the parasitic habit puts these remarkable plants in their biological context and prepares the reader for the excellent and detailed studies of haustorial morphology in the chapter by Clyde Calvin and Carol Wilson, and pollination mechanisms in the chapter by Donald Kirkup. The presentation of host ranges for each genus in Table 1 was particularly welcome, and helped to clarify trends that I had noted but never attempted to quantify by field observations. The short chapter on the origins and evolution of the families is a competent summary from studies in embryology, cytology, anatomy, morphology, DNA sequences, and phytogeography, but would be more satisfactory if the putative phylogeny of all of the families of Santalales were presented as one or more cladograms. A chapter on biogeography summarizes trends apparent in distribution maps of individual species within the context of the main chorological divisions of Africa, and a brief chapter touches on the (mostly negative) economic importance of these parasites.

The authors set the stage for the systematic core of the book in the chapter "Generic Classification of African Loranthaceae" (pp. 61–66). For one who has struggled with great difficulty to find acceptable modern generic placements for countless basionyms in *Loranthus*, the comparison of various authors' generic arrangements in Table 6 was particularly revealing. The separation of the genera into two major lines of evolution, the Tapinantheid and Taxilloid groups, is a genuine advance in phylogenetic understanding, but here as at the family level, presentation of generic relationships as a cladogram, however tentative, would make the conclusions much more accessible. In particular, more explicit support for the separate recognition of *Actinanthella*, *Agelanthus*, *Englerina*, *Oliverel-*

la, *Oncocalyx*, and *Spragueanella* in the Tapinantheid group would be highly desirable. In the Taxilloid group, the segregation of *Taxillus* and *Vanwykia* must be seen as questionable pending inclusion of *Bakerella* and *Socratina* from Madagascar and the Indian Ocean islands in the analysis.

The systematic part of the book (pp. 76–359) is meticulously well organized and clearly presented. Running titles in a colored bar on the right margin relieve the user of the tedium of searching through the text after using the key to genera. I experienced few problems in using the keys to genera and species to identify herbarium specimens. Although the distinctions between the sections of *Agelanthus* (p. 138) seem a bit vague, and specimens of dioecious species of *Viscum* can present problems in a key (pp. 280–282) that in places relies on characters of only staminate or pistillate flowers, these are minor problems that can readily be addressed with reduced numbers of species in the regional flora treatments for which this volume is stated to be a precursor. Descriptions of genera and species are beautifully parallel throughout, greatly facilitating comparison of taxa when any doubt remains from the keys. The line drawings by Christine Grey-Wilson and Marguerite Scott are of excellent quality and highly diagnostic, complemented by numerous, mostly excellent color photographs that underline the need for careful recording of flower color patterns in collectors' field notes. The inclusion of distribution maps for all species contributes greatly to the usefulness of the book, but at least this user finds the semitopographic, gray-colored maps somewhat difficult to scan visually and would prefer black-and-white outline maps. Bibliographic citations and synonymy are thorough and accurate, and the decision to apply lectotypification rather sparingly (p. 76) has been most judiciously applied. Although very few specimens other than types are cited in the text, the list of specimens on pp. 317–359 is unusually extensive and an invaluable aid to herbarium curation. Inevitably, a few discrepancies between stated geographic distributions and listed specimens have crept in (e.g., *Breteler* 654 from Gabon cited on p. 321 as *Globimetula elegantiflora*, stated on p. 217 as only "possibly in Gabon"), but these are editorial details that detract nothing

from the overall quality of the work. In short, this is a magnificent volume that belongs on the shelf of anyone concerned with the biology and systematics of parasitic plants, and I commend the

authors on this culmination of many years of dedicated endeavor.—Roy E. Gereau, *Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, U.S.A.*